Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1. **(Currently amended)** An expression vector comprising a nucleic acid sequence which encodes a human~~mammalian~~ $Na_v1.9$ sodium channel protein or a fragment thereof, wherein the human $Na_v1.9$ sodium channel protein or fragment thereof~~expression vector~~ produces a sodium current ~~when~~ after the expression vector is transfected in a cell.

2-3. **(Canceled)**

4. **(Currently amended)** The expression vector of claim 1~~2~~, wherein the human $Na_v1.9$ comprises an amino acid sequence selected from the group consisting of:

   (a) amino acid residues 1 to 1791 of SEQ ID NO: 4,

   (b) an amino acid sequence comprising a fragment of amino acid residues 1 to 1791 of SEQ ID NO: 4, and

   (c) amino acid residues 1 to 1791 of SEQ ID NO: 4 comprising at least one conservative substitution.

5. **(Canceled)**

6. **(Original)** The expression vector of claim 1 that is an expression plasmid.

7. **(Original)** The expression plasmid of claim 6 that is a low copy number expression plasmid.

8. **(Original)** The expression plasmid of claim 7 further comprising a promoter sequence operably linked to the $Na_v1.9$ sequence.

9. **(Original)** The expression plasmid of claim 8, wherein the promoter sequence is a CMV promoter.

10. **(Original)** The expression plasmid of claim 8 further comprising a

selectable marker under the control of a second promoter sequence.

11. **(Original)** The expression plasmid of claim 10, wherein the selectable marker is a neomycin resistance gene.

12.-24. **(Canceled)**

25. **(Currently amended)** A method of making a cell or cell line that produces a human $Na_v1.9$ sodium channel-dependent sodium current comprising:

(a) providing a cell which has been transfected with an expression vector which comprises a nucleic acid sequence which encodes the human $Na_v1.9$ sodium channel protein, and

(b) culturing said cell under conditions which allow expression of the $Na_v1.9$ sodium channel protein to produce a sodium current in the transfected cell.

26. **(Canceled)**

27. **(Currently amended)** The method of claim 2526, wherein the expression vector is an expression plasmid.

28. **(Canceled)**

29. **(Currently amended)** A method of screening for an agent that modulates sodium current in a cell comprising:

(a) providing a cell which has been transfected with an expression vector which comprises a nucleic acid sequence which encodes the human $Na_v1.9$ sodium channel protein;

(b) culturing said cell under conditions which allow expression of the $Na_v1.9$ sodium channel protein to produce a sodium current in the transfected cell;

(c) exposing the cell or cell line produced by steps (a) and (b) ~~the method of claim 25~~ to the agent; and

(d) measuring sodium current following exposure to the agent, wherein an

alteration in the level of sodium current is indicative of an agent capable modulating sodium current in a cell.

30. **(Currently amended)** A recombinant cell comprising an~~the~~ expression vector ~~of claim 1~~ comprising a nucleic acid sequence which encodes a human $Na_v1.9$ sodium channel protein or a fragment thereof, wherein the human $Na_v1.9$ sodium channel protein or fragment thereof produces a sodium current after the expression vector is transfected in a cell.

31. **(Original)** The expression vector of claim 1, wherein the vector is a viral vector.

32. **(Original)** The viral vector of claim 31, wherein the viral vector is selected from the group consisting of adenovirus, adeno-associated virus and baculovirus.

33. **(Currently amended)** A recombinant cell comprising a~~the~~ viral expression vector comprising a nucleic acid sequence which encodes a human $Na_v1.9$ sodium channel protein or a fragment thereof, wherein the human $Na_v1.9$ sodium channel protein or fragment thereof produces a sodium current after the expression vector is transfected in a cell~~of claim 31~~.